



# Conserve O Gram

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## Storage Screens For Paintings

Park museum collections very often contain framed paintings that need to be stored. Framed paintings in stable condition can be stored safely and efficiently on storage screens. There are companies that can design, fabricate, and install screen systems of any size. A less expensive approach is for a park to construct art storage screens from locally available materials. This *Conserve O Gram* provides guidance on constructing and installing an art storage screen system from readily available materials. The system described also can be used to hang other *framed* objects (e.g., prints, drawings, documents, textiles, and mirrors).

### General Considerations

Before obtaining a suitable storage screen system, park curatorial staff need to address the following general considerations:

1. Inventory the collection of framed paintings and other media, noting the size and estimated weight of the objects that are to be stored on screens. The inventory information is essential for designing a system. In designing the system, keep in mind that heavier objects need to be hung on the lower portion of a screen panel and lighter objects on the top portion.
2. Examine and record the condition of the framed objects. **NOTE:** Vertical storage for framed paintings is suitable only for objects in stable condition. Never hang paintings in poor condition (e.g., loose canvas, flaking paint, tears). If possible, store those objects flat in map and plan file drawers. However, many framed paintings will not fit safely in shallow map drawers. They may have to be stored horizontally on a shelf.
3. Ensure that the storage space will have wide enough aisles between art storage screens (at least 3 feet; wider when collection contains large framed objects) to allow safe hanging or rehanging of objects.

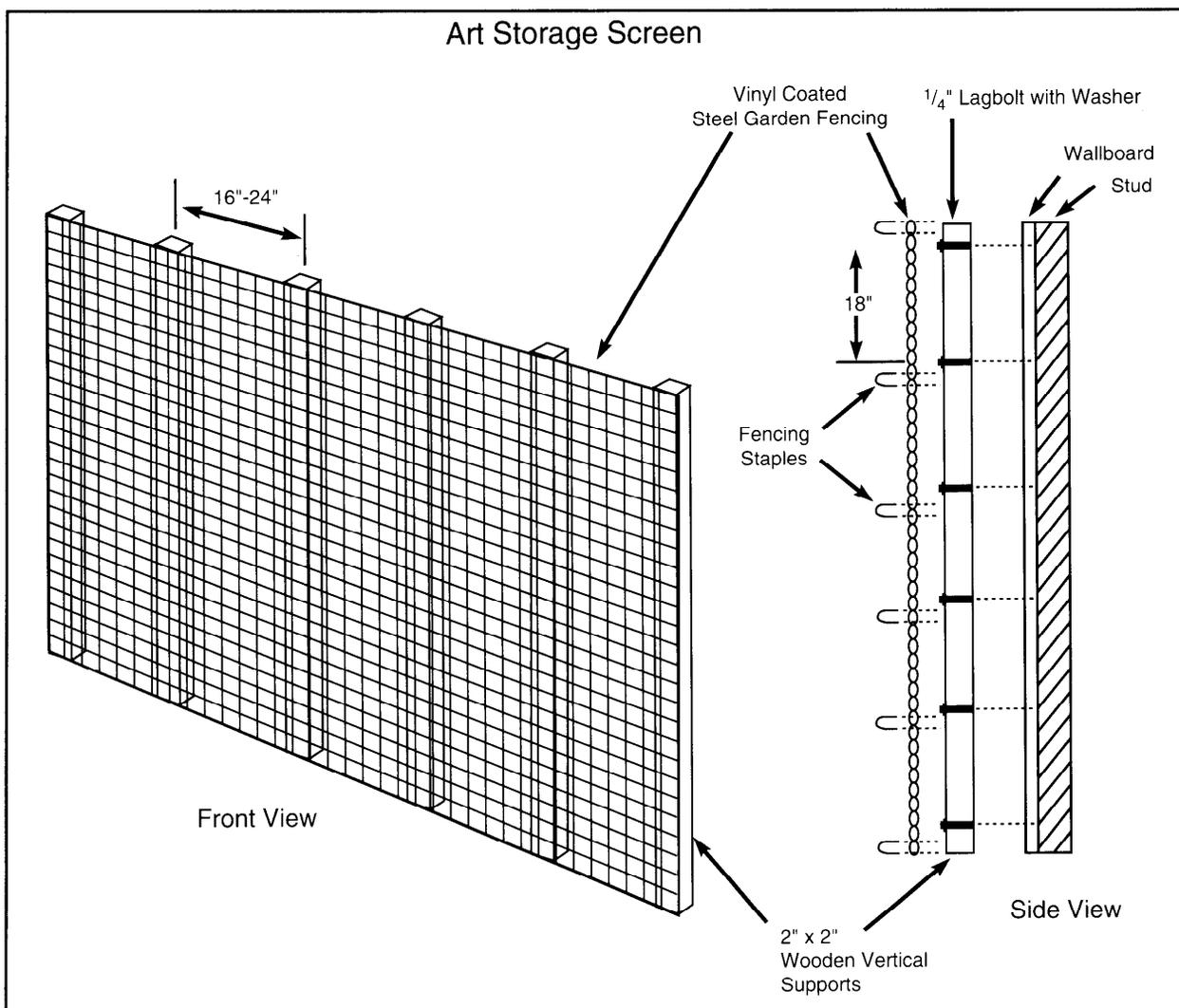
### Constructing Art Storage Screens

One of the easiest framed art storage methods is to mount screens on the wall, using the exposed sides for hanging the objects. The steps for this method are as follows:

- Determine if the selected wall can support the screens and the best method to attach them to the wall. **NOTE:** It is recommended that external walls of a building not be used. These areas often pose problems of excessive moisture or rapid fluctuation in relative humidity.
- Cut 2" x 2" wooden boards to the desired length (not more than 10 ft.) to fabricate vertical supports. The number of vertical supports needed will depend on the desired length of the screen. Storage screens should not exceed a height of ten feet. Paint all surfaces of the vertical supports with two coats of a water-based aliphatic urethane (Polyglase Waterborne Finish) to minimize outgassing of vapors from the wood.
- Locate the studs in the wall. Studs are commonly spaced at 16" to 24" on center. Fasten 2" x 2" wooden vertical supports to the studs. Drill 1/4" clearance holes approximately 18" apart in each vertical support. Drill 1/8" pilot hole into each stud at the location for each lag bolt. Use 1/4" lag bolts with washers to mount the vertical supports to the studs in the wall.

**NOTE:** For masonry walls, drill 5/16" holes. Tap masonry anchors into the hole with a hammer. Attach the 2" x 2" wooden vertical supports to the wall by inserting lag bolts with washers into the masonry anchors.

- Attach vinyl-coated steel garden fencing to the wooden vertical supports at one foot intervals with fencing staples. The fencing material will support the weight of framed objects if installed according to the directions in this *Conserve O Gram*. The fencing material comes in 50 foot rolls and in heights of 2, 3, or 4 feet.
- Use wire cutting pliers to cut the fencing material to the desired length. Stretch the fencing tightly to ensure a certain amount of tension. The tension is necessary to support heavy framed objects. Ensure that there are no exposed sharp wires that could snag on objects or staff clothing.
- Hang the paintings and other framed objects on the fencing wire using metal S-hooks. S-hooks come in various sizes. Use an appropriate size hook for each framed object. In areas subject to earthquakes, double-end snap hooks should be used instead of S-hooks



to prevent painting from falling during tremors. Ensure that paintings and other media are secure in their frames.

- As a final step, assign and affix a number to each screen to facilitate accessing the objects by location. Identify each painting with a tag that includes the catalog number, title of painting, and artist. Place the tag so that the catalog number can be readily seen, e.g., attach the tag with cotton string to either eyehook on the back of the frame. The string should be long enough to allow the tag to hang below the bottom of the frame.

Another method for storing paintings is to attach vinyl-coated steel garden fencing to a free-standing framework made from slotted angle framing such as Dexion.<sup>®</sup> The advantage of this method is that both sides of the screen can be used to hang paintings. Construct a free-standing framework from slotted angle. (This is the same material used for constructing shelving.) A special tool can be obtained to cut the slotted angle to desired lengths. The free-standing frame can be fastened to a concrete floor using a ram-set gun or bolted to a wooden floor. For additional strength and support, anchor the free-standing frame to any supports in the room (e.g., columns, adjacent walls). Again, the storage screens should not exceed a height of ten feet. Stretch the vinyl-coated steel garden fencing tightly onto both sides of the free-standing frame. Attach fencing to the frame with cable ties.

**NOTE:** Always remember to design storage screens with the safety of the person and the objects in mind. Cut the materials cleanly. Watch for and pad sharp edges. Make sure that objects are not placed too high or too low or in such a position that a ladder could knock into or gouge the objects. Rubber corner guards or rubber donut end bumpers can be purchased for slotted angle to prevent puncturing.

### Sources

Polyglase Waterbourne Finish is available from hardware stores and distributors or from Camger Chemical Systems, Inc., 364 Main Street, Norfolk, MA 02056, (508) 528-5787.

Vinyl-coated steel garden fencing, lag bolts, cable ties, masonry anchors, S-hooks, and double-end snap hooks are available from hardware or building supply stores.

NPS parks and centers and other federal agencies can obtain slotted angle framing from Unicor Federal Prison Industries, Inc., Metal and Wood Products Division, Washington, D.C. 20534, (202) 783-7021. Dexion slotted angle is available from Interlake, 550 Warrenville Road, Lisle, Illinois 60532, (708) 719-7022.

Rubber corner guards are available from Interlake, as above. Rubber donut end bumpers are available from Langley Equipment, 2 Sycamore Avenue, Medford, MA 02115, (800) 225-4499.

### References

Canadian Conservation Institute. "Storage Systems for Paintings." *Notes*, no. 10/3. Ottawa, Canada: Canadian Conservation Institute, 1986.

Carter, Tom. "Curatorial Care of Paintings." *Museum Handbook*, Part I, Appendix L. Washington, D.C.: National Park Service, 1990.

Keck, Caroline K. *A Handbook on the Care of Paintings*. Nashville: American Association for State and Local History, 1965.

Moser, Kenneth S. "Painting Storage: A Basic Guideline." *Conservation Concerns*. Edited by Konstanze Bachman. Washington, DC: Smithsonian Press, 1992.

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